PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of the existing traffic control signal at the intersection of MD 140 and Owings Mills Blvd./Garrison Forest Plaza in Baltimore County, Maryland.
MD 140 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to be modified to operate in a NEMA (6) six phase, full-traffic-actuated mode. There will be an exclusive leading left turn phase for the southbound movement of MD 140 with an exclusive lagging left turn phase for the northbound movement of MD 140. The MD 140 through movements will continue to operate concurrently with a concurrent pedestrian phase being added to the east leg of the intersection. The Owingsmills Blvd./Garrison Forest Plaza through movements will operate in a side street split mode with an existing actuated pedestrian phase across the south leg of the intersection

The existing controller shall be utilized. Five 4-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet shall be installed at this location.

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
2	EA	818	12 in. x 30 ft. steel strain pole (Note: four 1¾ in. x 90 in. anchor bolts)
1	EA	818	10 ft. steel pedestal pole with breakaway transformer base (Note: four 1 in. x 40 in. anchor bolts).
1	EA	816	Standard S.H.A., base mounted cabinet, and five 4-channel rack mounted loop detector amplifiers [Note: Cabinet shall be supplied by Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
6	EA	814	12 in., one-way, three section (R,Y,G) adjustable traffic signal head with span wire mounting hardware and tunnel visors.
4	EA	814	12 in., one-way, three section (RA,YA,GA) adjustable traffic signal head with span wire mounting hardware and tunnel visors.
4	EA	814	12 in., one-way, four section (R,Y,G,GA) adjustable traffic signal head with span wire mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal head with pole mounting hardware and cut-away visors.
1	EA	814	12 in., two-way, two section (symbolic DW,WK) adjustable pedestrian signal head with post top mounting hardware and cut-away visors.
5	EA	813	30 in. x 36 in. R 3-5(L) sign with span wire mounting hardware.
1	EA	813	30 in x 36 in. R 3-5(R) sign with span wire mounting hardware.
1	EA	813	30 in. x 36 in. R 3-6(L) sign with span wire mounting hardware.
2	EA	813	16 in. x Var. D-3(1) (Dual-Faced) sign with span wire mounting hardware.
2	EA	813	9 1n. x 12 in. pushbutton sign R 10-4(1)
2	EA	817	Pedestrian pushbutton assembly.

B. Equipment to be furnished and/or installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
4	CY	205	Test pit excavation.
6	EA	811	Handhole.
900	EA	815	Sawcut for signal loop detector.
3315	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
5475	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
530	LF	810	2-conductor electrical cable (No. 14 A.W.G.)
315	LF	810	3-conductor electrical cable (No. 14 A.W.G.).
1100	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
685	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
40	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
40	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
490	LF	819	⅜ in. steel span wire.
45	LF	805	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
30	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
30	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
145	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
65	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
50	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
10	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
7.25	CY	801	Concrete foundation for traffic signal equipment.
4	EA	804	Ground rod -3/4 in. diameter x 10 ft.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a MD-SHA [Type B-7] overhead electrical service.
540	LF	556	12 in. wide HAPPTPM - white for crosswalk.
180	LF	556	24 in. wide HAPPTPM - white for stop line.
450	LF	810	12-pair telemetry interconnect cable (No. 19 A.W.G.) - jelly filled.
500	LF	810	Relocate existing Interconnect cable.
6	EA	---	Loop detector splice.
Lump Sum	LS	---	Remove existing traffic signal equipment.
Lump Sum	LS	---	As-built for MD-S.H.A. [on CADD].

C. Existing equipment to be removed by the Contractor and delivered to the MDSHA Office of Traffic and Safety, Traffic Operations Division, Traffic Signal Shop, 7491 Connelley Drive, Hanover MD, 21076. A twenty-four (24) hour notice is required prior to delivery. Please contact Mr. Ed Rodenhizer at (410) 787-7650.

Quantity	Units	Description
1	EA	Pole-mounted cabinet.

Note. All equipment and/or material not listed above shall become the property of the Contractor.

CONTACT LIST

The contact persons for District #4 are as follows:

Mr. Dave Malkowski
District Engineer
410-321-2810

Mr. Randall Scott
Assistant District Engineer - Traffic
410-321-2781

Mr. Gradon Tobery
Assistant District Engineer - Utility
410-321-3460

Mr. Dave Ramsey
Assistant District Engineer - Maintenance
410-321-2761

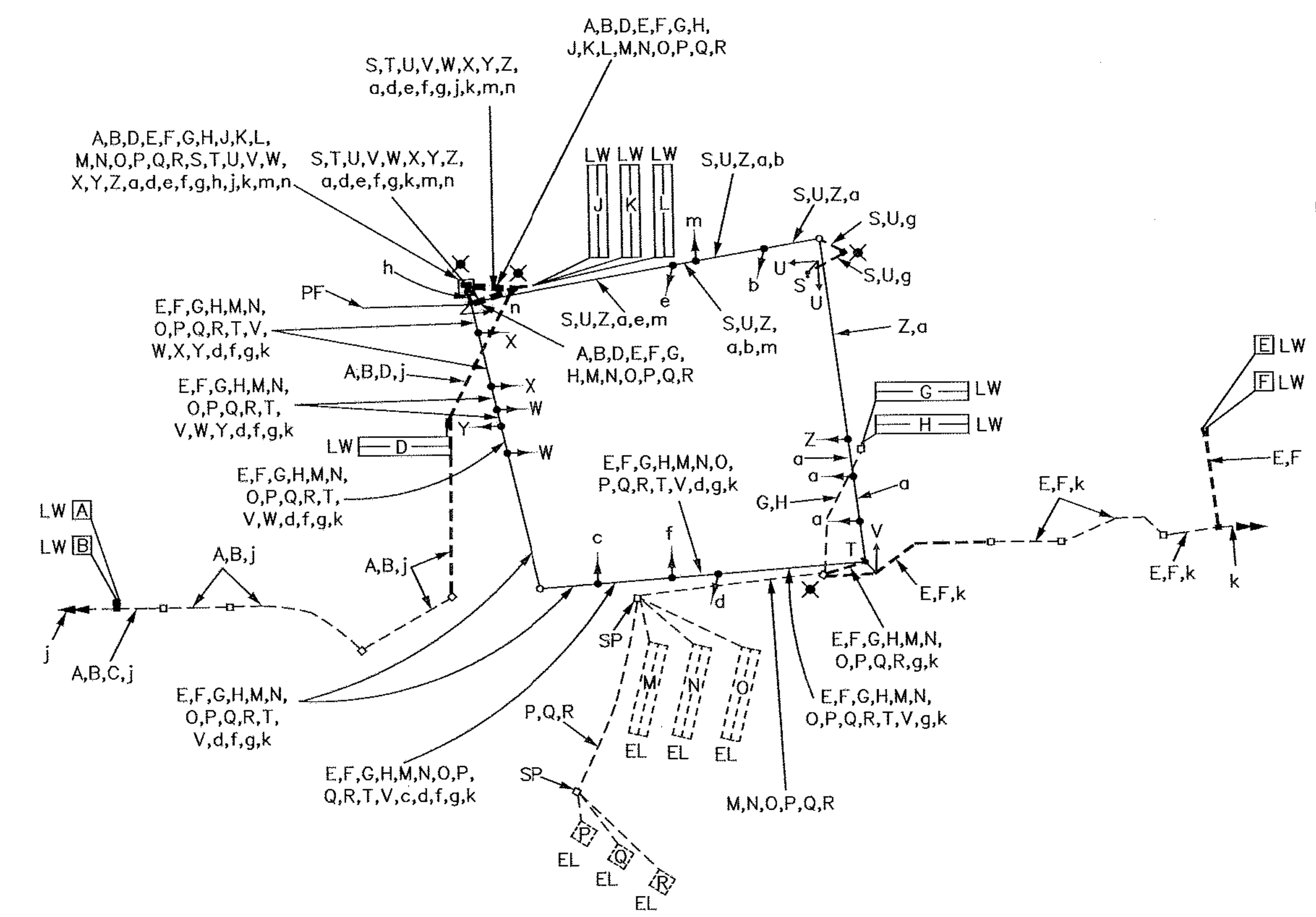
Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Bernie Thurman
7317 Parkway Drive South
Hanover, Maryland 21076
410-859-9070

Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15,16	17,18
Phase 1 & 5	←R	←R	R	R	←G	←G	G	G	R	R	R	R	R	R	DW	DW
5 Change	←R	←R	R	R	←Y	←Y	G	G	R	R	R	R	R	R	DW	DW
Phase 1 & 6	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	WK	DW
Ped Clearence	←R	←R	G	G	←R	←R	G	G	R	R	R	R	R	R	FL/DW	DW
1 Change	←R	←R	G	G	←R	←R	Y	Y	R	R	R	R	R	R	DW	DW
Phase 2 & 6	←G	←G	G	G	←R	←R	R	R	R	R	R	R	R	R	DW	DW
2 & 6 Change	←Y	←Y	Y	Y	←R	←R	R	R	R	R	R	R	R	R	DW	DW
Phase 3	←R	←R	R	R	←R	←R	R	R	R	R	R	G ←G	G ←G	G	DW	DW
3 Change	←R	←R	R	R	←R	←R	R	R	R	R	R	Y	Y	Y	DW	DW
Phase 4	←R	←R	R	R	←R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	DW
4 Change	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	R	R	R	DW	DW
Phase Alt 4	←R	←R	R	R	←R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	WK
Ped Clearance	←R	←R	R	R	←R	←R	R	R	G ←G	G ←G	G	R	R	R	DW	FL/DW
Alt 4 Change	←R	←R	R	R	←R	←R	R	R	Y	Y	Y	R	R	R	DW	DW
Flashing Operation	FL/ ←R	FL/ ←R	FL/Y	FL/Y	FL/ ←R	FL/ ←R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

Wiring Diagram



A,B,D,E,F,G,HJ, K,L,M,N,O,P,Q,R — 2-Conductor Cable (Aluminum Shielded)

S, T — 2-Conductor Electrical Cable (No. 14 A.W.G.)

V, m — 3-Conductor Electrical Cable (No. 14 A.W.G.)

U,W,X,Y, Z,a,b,c — 5-Conductor Electrical Cable (No. 14 A.W.G.)

d, e, f, m — 7-Conductor Electrical Cable (No. 14 A.W.G.)

g — Bare Copper Ground Wire (No. 6 A.W.G.)

h — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

j — Existing Interconnect Cable [MD 140 - Tollgate Rd. South Run]

k — 12-Pair Voice Grade Telemetry Interconnect Cable (No. 19 A.W.G.) [MD 140 - Rosewood Lane Run]

EL — Existing Loop Detector Wire

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

SP — Splice Aluminum Shielded Cable To Existing Loop Wire

PF — Proposed Overhead Electrical Service By BG& - (To be determined in the field).

✕ — Proposed Grounding Rod

The Traffic Group

The Traffic Group, Inc.
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40 W. Chesapeake Avenue
Towson, Maryland 21204
410-583-8405
1-800-583-8411
Fax 410-321-8458
Job. No. 980107
SIGPLAN.DGN

MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information)

MD 140 & Owings Mills Blvd./ Garrison Forest Plaza

DATE: November 17, 1999		LOG MILE # 0301400535	
DRAWN BY: JES	F.A.P. NO. N/A	PLAN SHEET NO.:	SHEET NO.
CHK. BY:	S.H.A. NO. BW996M82	1899A-GI	2 of 2
SCALE: N/A	COUNTY: Baltimore		

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